The General Research Support Grant Program:
Its Objectives and How They Are Being Met

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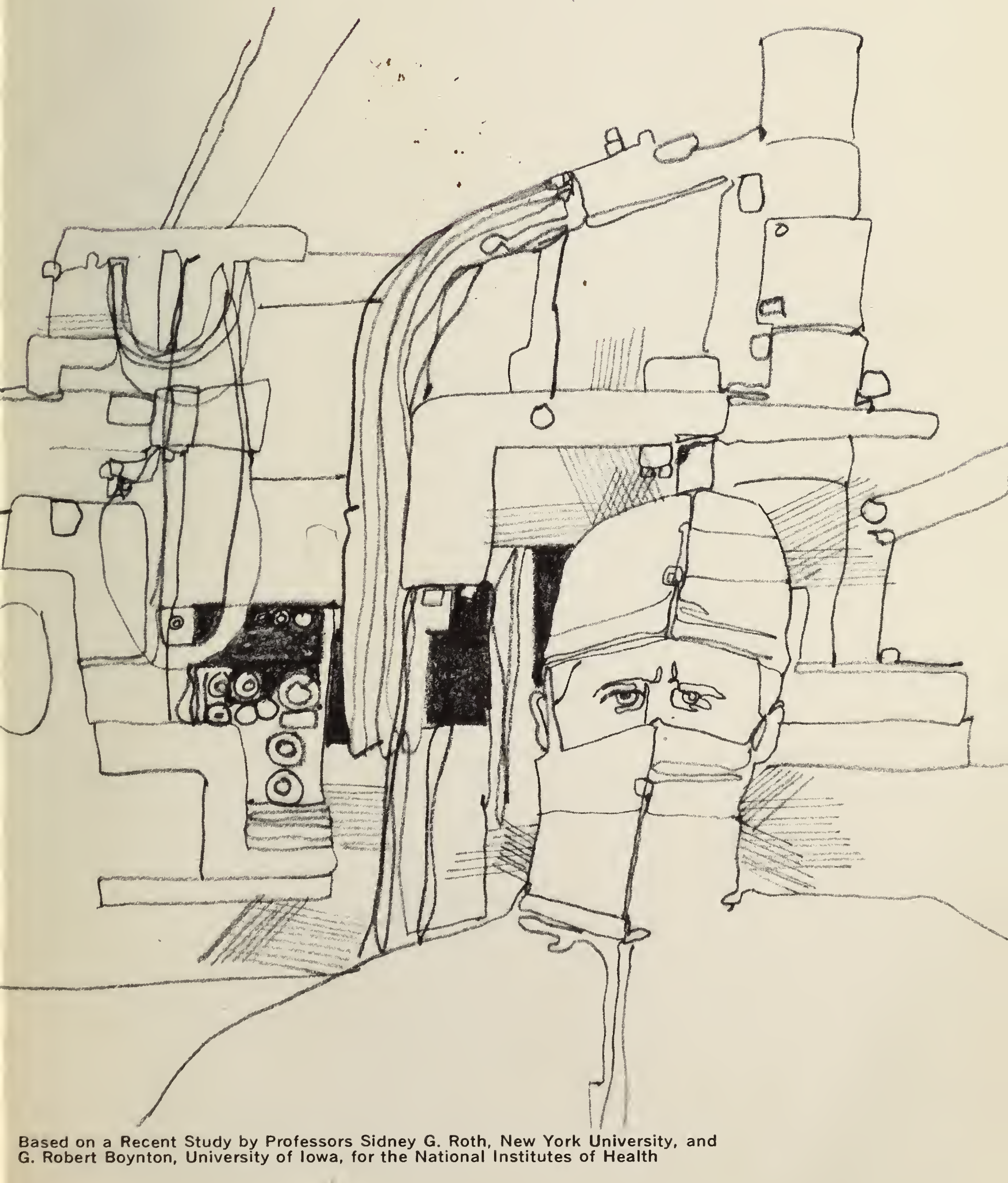

Based on a Recent Study by Professors Sidney G. Roth, New York University, and
G. Robert Boynton, University of Iowa, for the National Institutes of Health

NOTE: This booklet is a communication to interested biomedical scientists from the staff of the Division of Research Resources, Bureau of Health Professions Education and Manpower Training, National Institutes of Health, of certain findings from the report of Professors Sidney G. Roth and G. Robert Boynton. Through this publication, the Division hopes to give interested persons a perspective from which to make informed evaluations of the General Research Support Grant program.

The General Research Support Grant program (GRSG) of the National Institutes of Health was started in 1962 after the passage of Public Law 86-798. The NIH established this program in recognition of the necessity of giving institutions heavily engaged in health-related research greater control, than was possible exclusively under the research project grant system, over the quality, content, emphasis, and direction of their research activities. Viewed as complementary to project grants, this formula-grant program provided funds on a continuing basis to eligible institutions for their flexible and discerning use in their research and research training activities. Eligible institutions were initially limited to schools of medicine, dentistry, osteopathy, and public health. Later, eligibility was broadened to include other types of health professional schools, hospitals, state and local health departments, and nonacademic health research organizations.

Since 1962, the National Institutes of Health has invested more than $300 million in these institutional research grants, with awards to approximately 350 eligible institutions. While the program's overall objective has been to advance (or strengthen) the medical and health-related research and research training activities of these institutions, a number of subobjectives have been identified during the establishment of the grant and its evolution. These are:

- To cultivate scientific excellence through building institutional strengths.
- To contribute to the stable support and development of institutional programs.

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- To support emerging opportunities in research via the pursuit of novel ideas.
- To enable early recognition and support of scientific talent.
- To allow an institution to balance its program.
- To enhance the institution's role in determining the direction of its programs.
- To provide incentive to attract more nonfederal research funds and to supplement rather than supplant other support.

In pursuing these sub-objectives, grantee institutions provide support: for pilot research studies, including funding for the exploration of novel ideas; for young investigators; for the development of research components of new programs and departments; for stable salary support; for research services and resources; and for unanticipated costs and expenses not met by project grants.

An evaluation of the effectiveness of the GRSG program was initially undertaken by an expert panel of the National Academy of Sciences—National Research Council in 1965. This group concluded that ". . . in general, institutions have administered their grants with foresight and in careful conformity with the broad purposes of the Program," and ". . . the National Institutes of Health should begin now to plan the design of a more penetrating evaluation to be undertaken after 4 or 5 years of experience with the Program." In response to this recommendation, Professor Sidney G. Roth, Director of

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Sponsored Programs, New York University, and Dr. G. Robert Boynton, Director of the Laboratory of Political Research, University of Iowa, were retained to conduct this "more penetrating evaluation."

Since nearly all eligible institutions had applied for and received grants, Professors Roth and Boynton were not able to conduct a study contrasting the advancement of research and research training activities at those institutions that had received GRSG awards with those that had not received such funds. As the next best alternative, they undertook an in-depth study of the uses made by recipients of GRSG funds in pursuit of the objectives of the program. Each of the sub-objectives of the program became the target of a set of queries designed to elicit responses in qualitative and quantitative terms from 294 grantee institutions* and from more than 9,000 individual scientists. From these responses, it was possible to draw conclusions as to the effectiveness of the program compared to other types of possible support.

The major findings of the study are outlined in this publication, which has been prepared by the staff of the Division of Research Resources.

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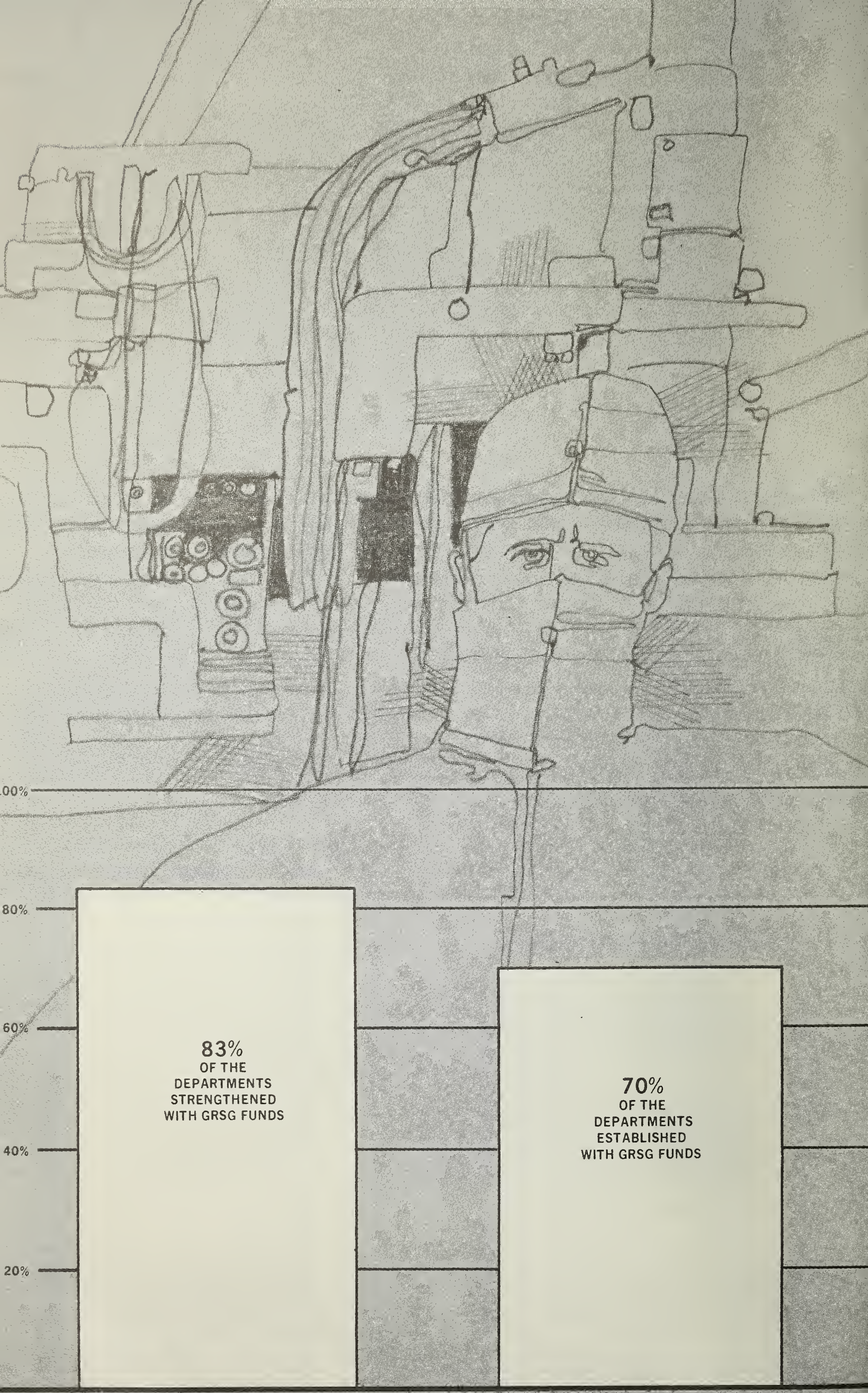
*178 academic institutions and 116 hospitals and research institutes participated.

"The fundamental rationale of this program is that effective health research requires a strong institutional base as well as direct project support. The primary function of the GRS program is to provide support that will enable each institution to develop in ways generally not associated with project support or other research and training programs. GRS should be the necessary element in the total support system through which an institution can forge new direction, innovate programs, support fledgling ideas and the people willing to tackle them. Hopefully, it is the linkage that makes the institution a cohesive health research and research training entity, rather than a set of discrete programs and projects, and enables it to develop the scholarly atmosphere for growth in quality."

From the Roth-Boynton report



Figures 1 and 2

GRSG OBJECTIVES AND HOW THEY ARE BEING MET

The GRSG program is designed to enable institutions:

1

To cultivate scientific excellence by building institutional strengths.

One of the most important ways that an institution can contribute to health research and training is through strengthening areas that are already making a substantial impact on health. Through GRSG support, institutions build areas of strength by supporting both staff members and research, and through department, program, and central resource development. Sixty percent of the 294 responding institutions reported that they had made "building areas of strength" a part of their policy for using GRSG funds. Seventy-seven percent of those responding believed that the GRSG had made a significant contribution toward meeting this objective. Under the grant, 193 institutions strengthened 848 existing departments, programs, and central resources; in addition, 184 institutions fortified already strong areas of scientific emphasis by establishing 686 new departments, programs, or central resources.

Figures 1 and 2—Time frame (1962-1967)
193 institutions **strengthened**
848 existing departments, programs, and central resources. GRSG funds were used in strengthening 703 (83%) of the 848 entities.

184 institutions **established**
686 new departments, programs, or central resources to fortify already strong areas of scientific emphasis. GRSG funds were used in **establishing** 481* (70%) of the 686.

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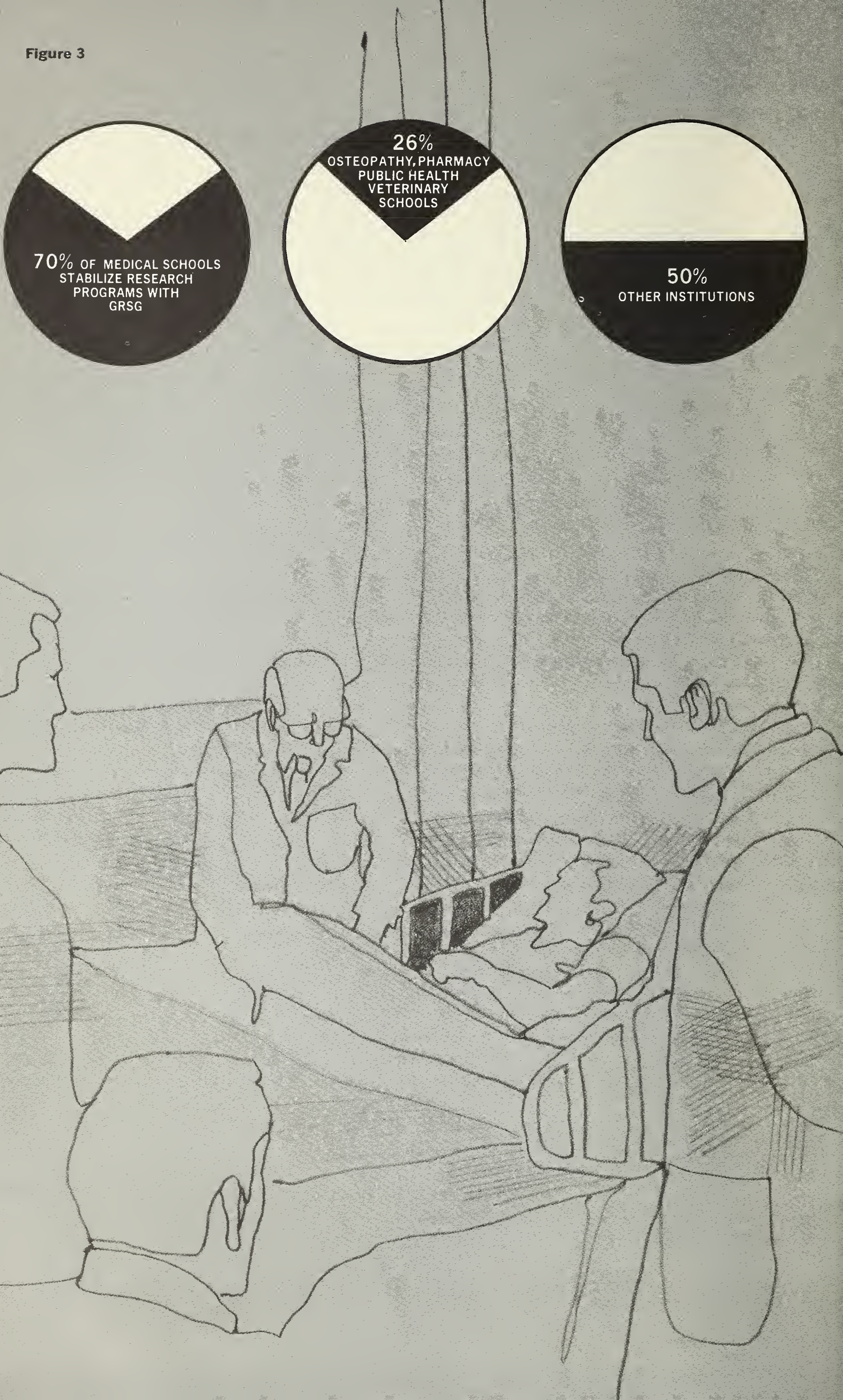
*the GRSG was the major source of funds in 37 percent.

Figure 3


70% OF MEDICAL SCHOOLS STABILIZE RESEARCH PROGRAMS WITH GRSG
26% OSTEOPATHY, PHARMACY PUBLIC HEALTH VETERINARY SCHOOLS
50% OTHER INSTITUTIONS

GRSG OBJECTIVES AND HOW THEY ARE BEING MET

The GRSG program is designed to enable institutions:

2

To contribute to the stable support and development of research and research training programs.

Institutional biomedical research programs are dependent to a large extent on the financial health of research and research training projects. In the event that lack of support develops for a particular project, personnel vital to the program could be lost. An important objective of the GRSG program is to enable institutions to stabilize their development by having funds to continue the operation of programs through the use of salary payments on an emergency or interim basis; to supplement salaries in order to retain valuable personnel; and to provide for equipment and other items when other funds are not available. More than 70 percent of the 90 medical schools surveyed used funds to stabilize activities through salary support; 26 percent of the 39 schools of osteopathy, pharmacy, public health, and veterinary medicine used GRSG funds in this way; and approximately 50 percent of 165 other types of institutions surveyed (dental schools, hospitals, health departments, and research institutes) said the GRSG helped to stabilize their development in this fashion. Salary support was by far the largest contribution made by the GRSG in stabilizing research programs.

Figure 3—Time Frame (1962-1967)
70 percent of the 90 medical schools surveyed used funds to stabilize activities through salary support; 26 percent of the 39 schools of osteopathy, pharmacy, public health, and veterinary medicine surveyed stabilized activities through salary support; and 50 percent of the 165 other types of institutions surveyed stabilized activities through salary support.

Figure 4

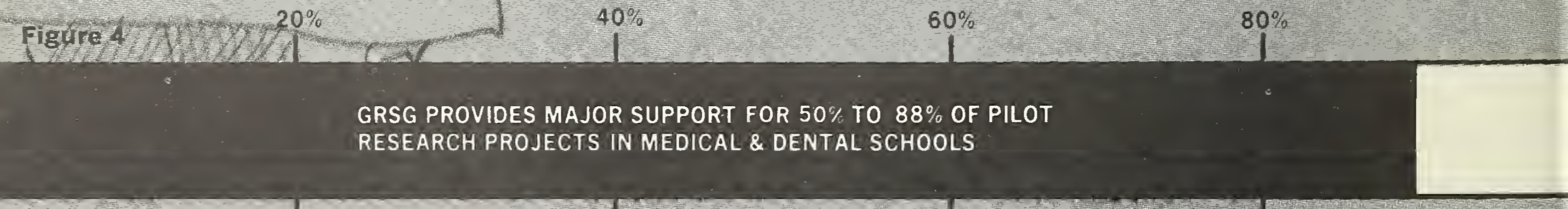


Figure 5

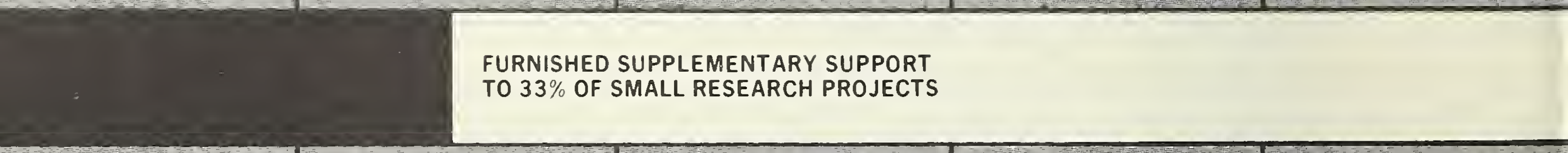


Figure 6

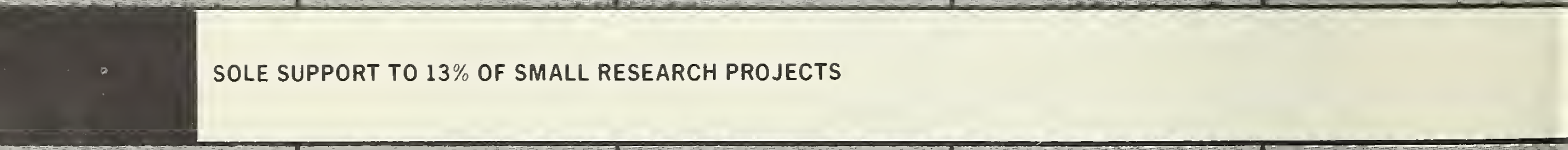
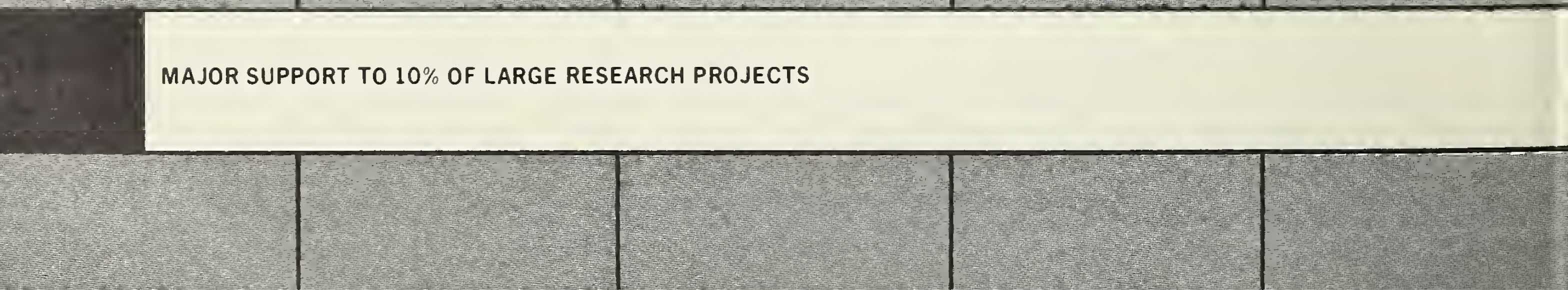


Figure 7



GRSG OBJECTIVES AND HOW THEY ARE BEING MET

The GRSG program is designed to enable institutions:

3

To explore and support emerging opportunities in research via the pursuit of new and unorthodox ideas.

Research in the health sciences is enhanced when there is a provision to meet emerging opportunities. Through GRSG, support is available for new leads developed during ongoing research and for the novel ideas of young investigators who have not had the opportunity to gain independent support for their projects. This program objective is the one most frequently mentioned as part of most institutional GRSG fund utilization policies. Thirty-two to forty-two percent of each class of institution reported that they had explicitly incorporated this goal into their own policy statements. From one-third to one-half of the 294 institutions reporting said that GRSG funds contributed significantly toward meeting this goal. One-half of the pilot projects at medical schools received their major support from a GRSG, and an even larger percentage of pilot projects received major support at each of the other classes of institutions.

Figure 4—Time frame (1966-1967)

Support for pilot projects.

3,401 pilot projects*: 50 percent of these projects in medical schools to 88 percent in dental schools received major support from GRSG.

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*2,998 projects had less than $10,000 in support.

Figure 5

Support for small research projects.

16,989 small research projects*:
5,663 received support from GRSG (33⅓ percent).

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*under $10,000 in support.

Figure 6

Major or sole support.

4,464 research projects* (13 percent) of the 34,270 (17,281 + 16,989) received sole or major support from GRSG.

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*4,000 projects had less than $10,000 in support.

Figure 7

Support for large research projects.

17,281 large research projects*:
GRSG contributed major support to 1,713 (10 percent) of the projects.

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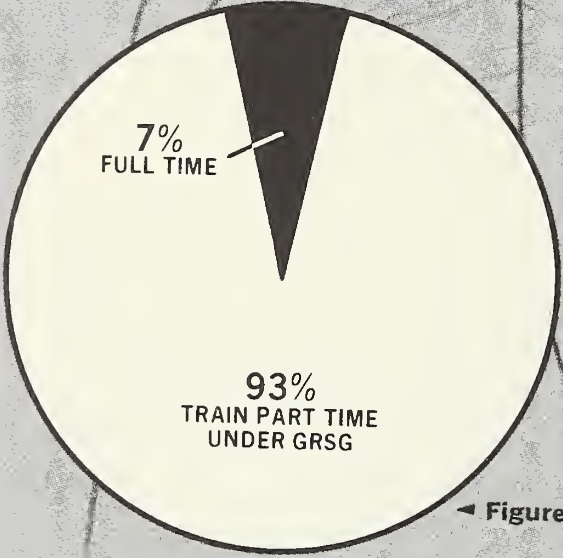
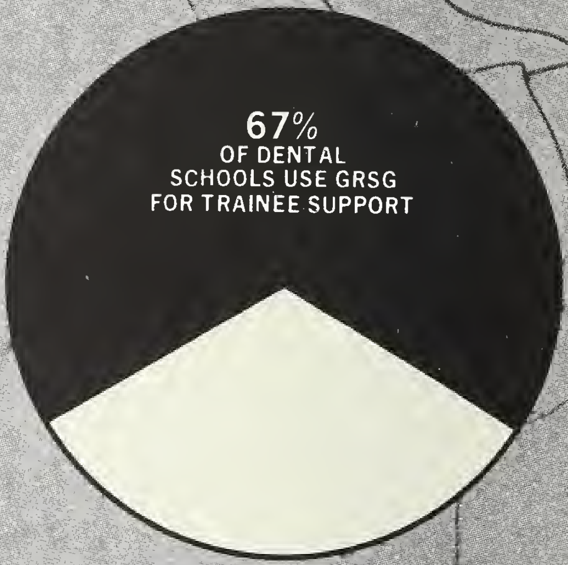
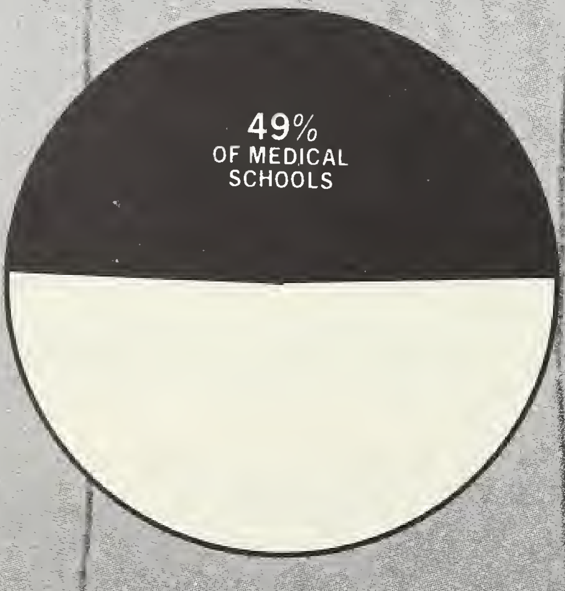
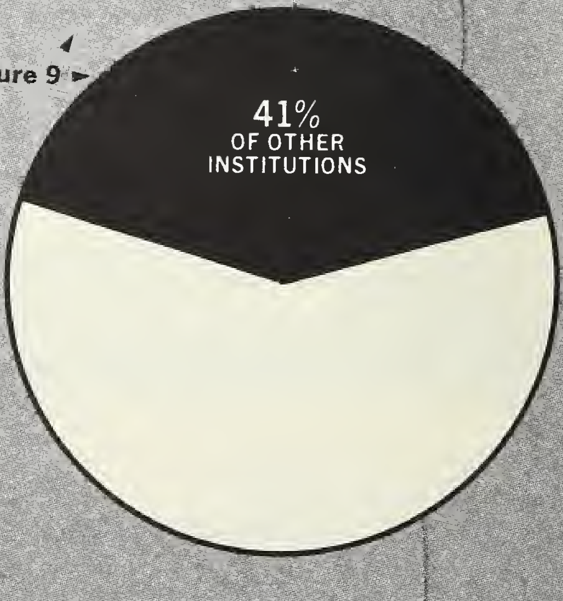
*more than $10,000 in support.



◄ Figure 8







◄ Figure 9 ►

GRSG OBJECTIVES AND HOW THEY ARE BEING MET

The GRSG program is designed to enable institutions:

4

To foster early recognition and support of scientific talent.

Many institutions that train health professionals have chosen to focus on encouraging talented young people to participate in research through research training supported by the GRSG. Sixty percent of the 139 medical and dental schools surveyed and 46 percent of the 155 other institutions surveyed included trainee support as part of their GRSG fund utilization policies. This was cited as a major GRSG contribution by 67 percent of the dental schools, 49 percent of the medical schools, and 41 percent of the other institutions. This grant provided the major source of funds to give short-term research orientation and awareness of research techniques to health professional students.

Figure 8—Time frame (1967)

3,300 student trainees under GRSG in 1967: 246 (7%) were full time (8 months), and 3,054 (93%) were part time.

Figure 9—Time frame (1962-1967)

Trainee support was the major GRSG contribution at 67 percent of the dental schools, 49 percent of the medical schools, and 41 percent of other institutions.

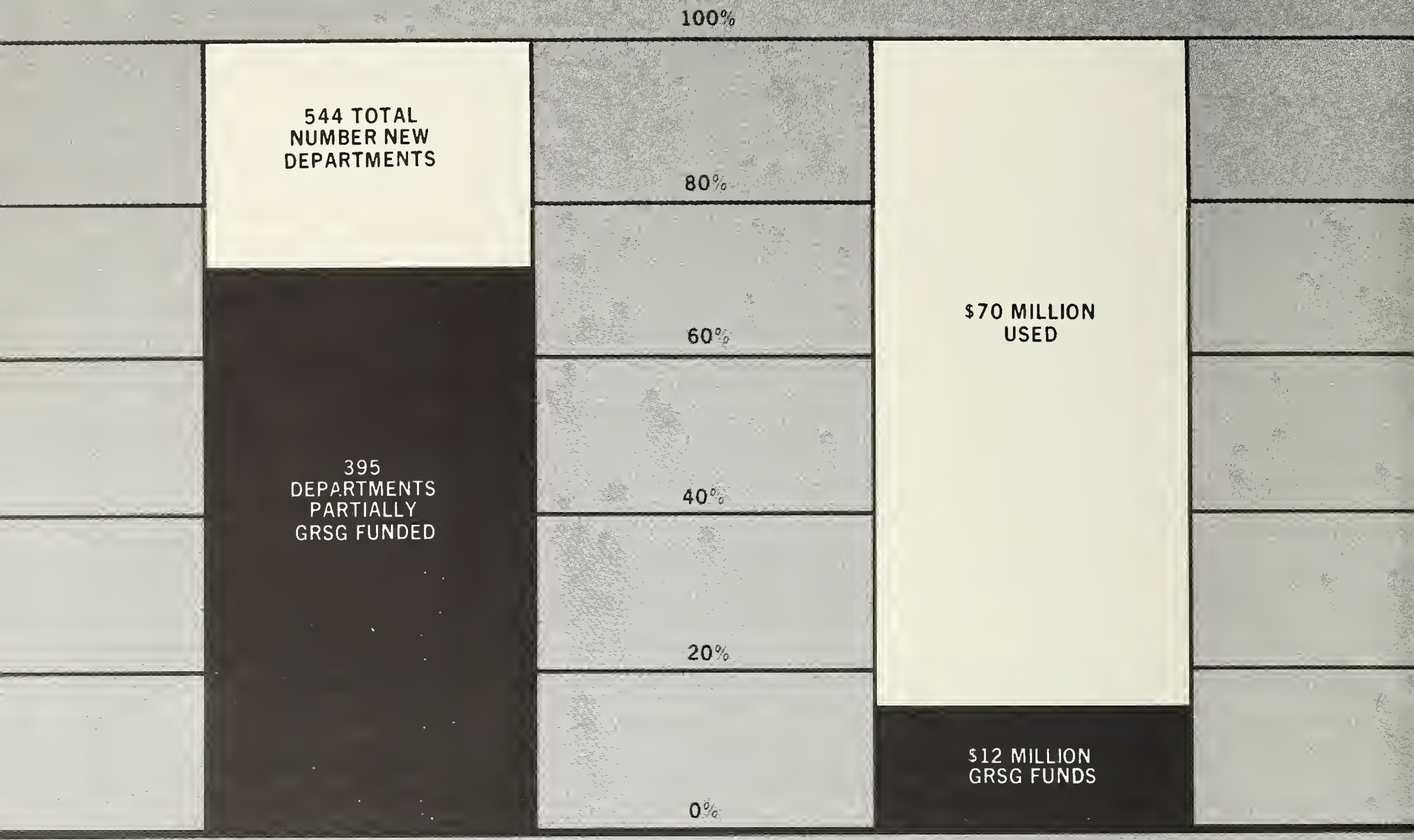
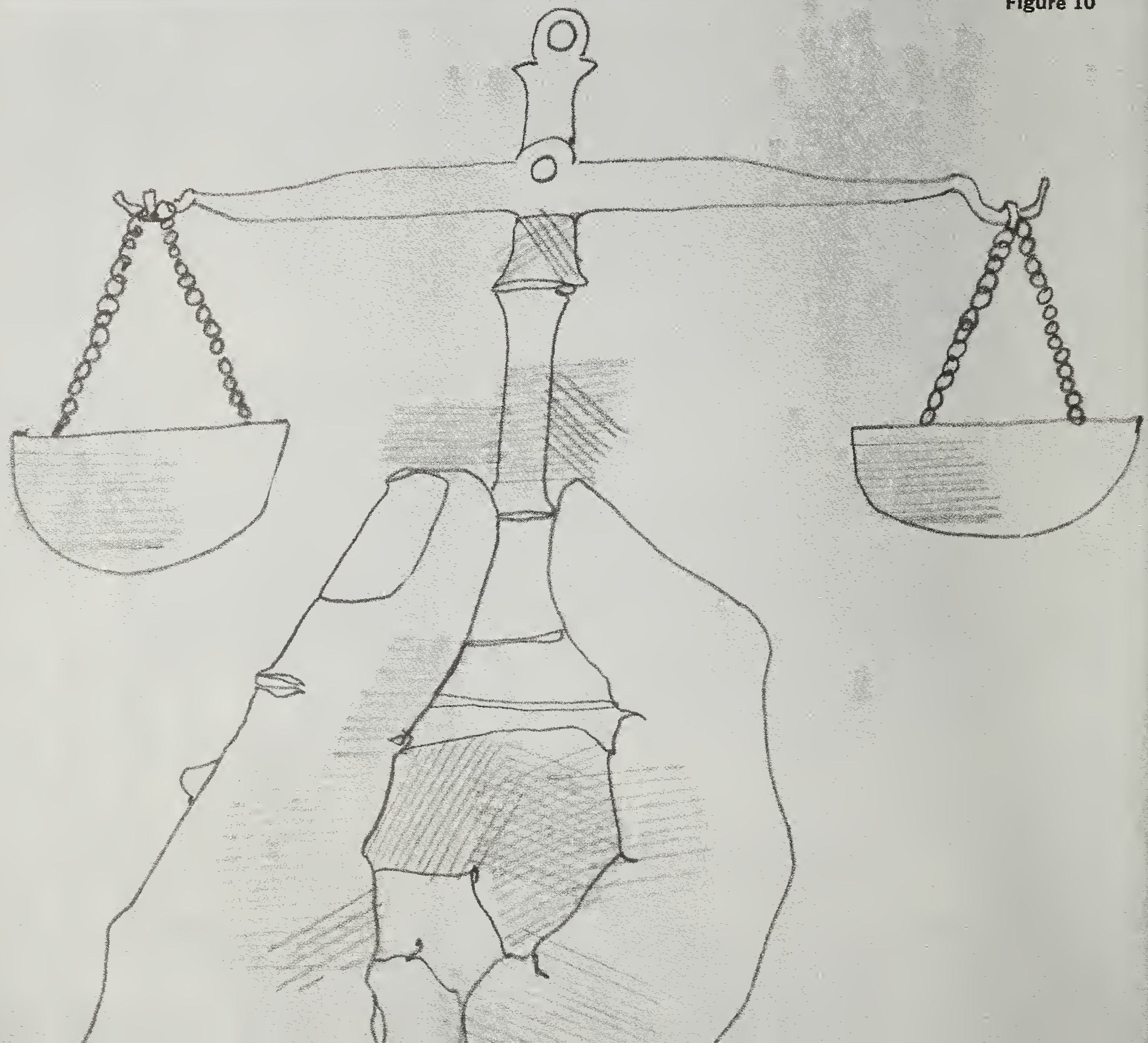

100%
80%
60%
40%
20%
0%
544 TOTAL NUMBER NEW DEPARTMENTS
395 DEPARTMENTS PARTIALLY GRSG FUNDED
$70 MILLION USED
$12 MILLION GRSG FUNDS

Figure 10



GRSG OBJECTIVES AND HOW THEY ARE BEING MET

The GRSG program is designed to enable institutions:

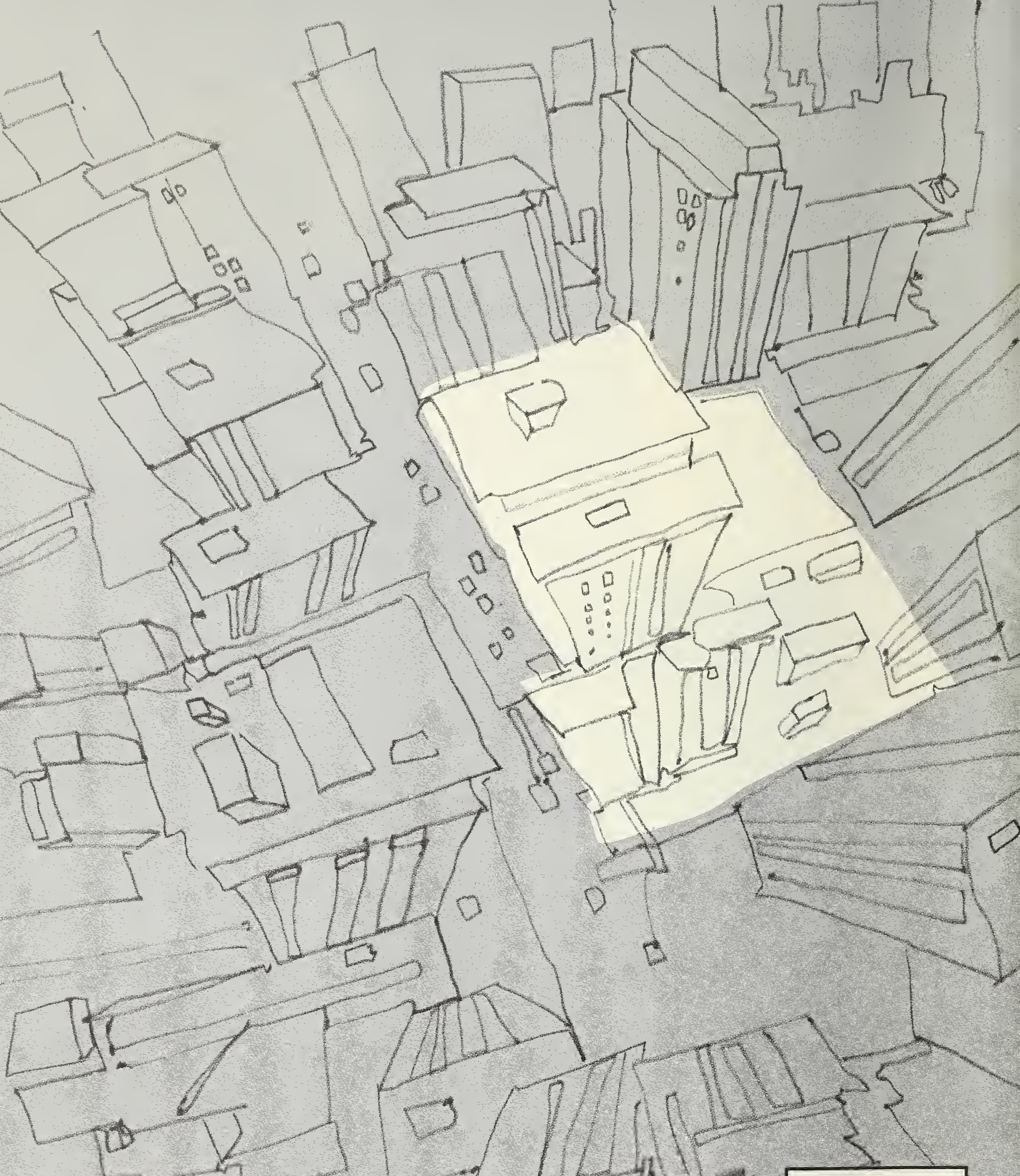
5

To redress imbalances in institutional ongoing programs.

One of the goals of the GRSG program is to provide institutions with the incentive and, at least, the partial means of balancing their total research and research training activities. Although this use of GRSG funds was an explicit provision in the GRSG fund utilization policies of only 25 percent of the institutions, more than two-thirds cited it as a major contribution to the development of their institution.

Figure 10—Time frame (1966-1967)

185 institutions created 544 new departments, programs, or central resources to balance institutional total programs; GRSG funds were used in part for 395 (73%) of these; GRSG supported $12 million (17%) of the $70 million involved.



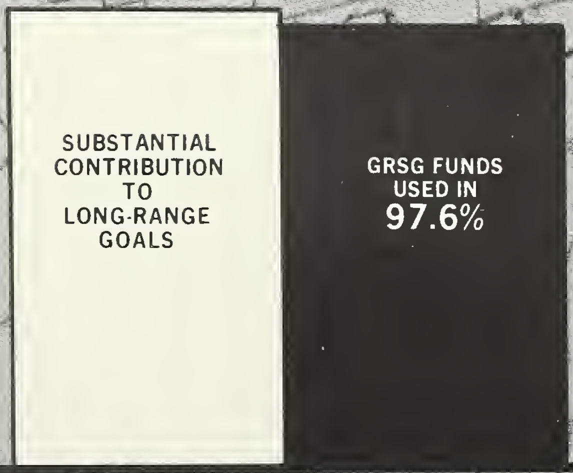

SUBSTANTIAL CONTRIBUTION TO LONG-RANGE GOALS
GRSG FUNDS USED IN 97.6%

Figure 11

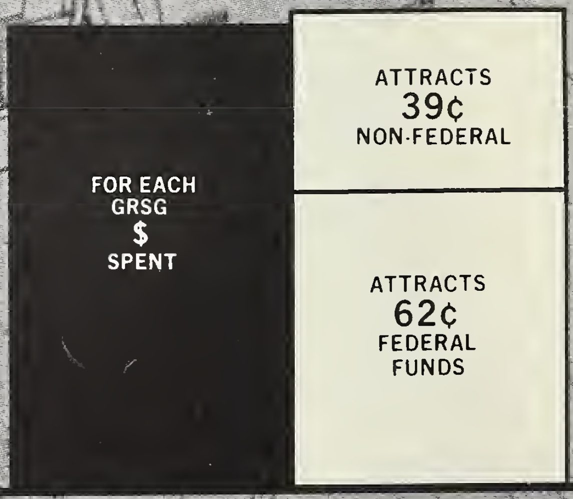


Figure 12

GRSG OBJECTIVES AND HOW THEY ARE BEING MET

The GRSG program is designed to enable institutions:

6

To enhance the role and initiative of institutions in determining the direction and thrust of their programs.

The distinctive characteristic of the GRSG program is that it provides research funds that can be used flexibly and at the discretion of the local institution. Institutional funds are likely to be committed to ongoing programs. Project support sponsored or financed by outside granting agencies is necessarily committed to those projects. This situation reduces the institution's autonomy in determining the course of its own development. GRSG funds, because they can be used flexibly, can serve as the financial basis for institutional decisions about future innovation and development. When asked to list their own long-range goals, and whether they had used GRSG funds to implement them, 287 of the 294 institutions surveyed indicated that the GRSG had made a substantial contribution in helping them implement these goals. Also, institutions said that they frequently used GRSG funds as ''seed'' money to attract support from Federal program or nonfederal sources. One hundred and eighty-nine institutions of the 294 surveyed reported that their preliminary funding of programs with GRSG monies resulted in a significant increment of both Federal and nonfederal support.

Figure 11—Time frame (1966-1967)

287 (98%) of the 294 responding institutions indicated that GRSG had made a substantial contribution in helping them implement their long-range goals.

Figure 12

189 institutions reported that for each dollar of GRSG funds spent on behalf of research programs, these institutions had attracted another 39 cents of nonfederal money and 62 cents of Federal project support.

FURTHER FINDINGS OF THE STUDY

Professors Roth and Boynton developed these additional major findings:

General Research Support Grants represented approximately 5 to 6 percent of Federal health research funds during 1966-67 and less than two percent of all operating expenditures of participating institutions.

Four out of five GRSG institutional awardees had policies to guide their allocation of GRSG funds; more than 60 percent of these were written. The policies emphasized the principal types of activities to be supported: general central resources, pilot or small projects, and faculty and professional staff salaries. Committees of faculty members generally guided the implementation of the policies.

There did not seem to be any significant difference in the use of GRSG funds between those institutions with GRSG fund utilization policies, written or unwritten, and those without such policies.

Institutions generally believed that GRSG awards were making a major contribution through their ability to help the institution meet emerging opportunities, stimulate and sustain ongoing research, and make possible early recognition and support of talent. They stressed that the principal virtues of the GRSG were the facilitation of institutional growth and development, its ability to support innovative ideas, and the flexibility of its funds.

Expenditures for health research by the GRSG populations from all sources increased by more than 150 percent from 1960-61 to 1966-67. GRSG dollars contributed less than 10 percent of the increase. Federal support was greater than the sum of all other funds and increased at a greater rate over this period than any other support element.

GRSG funded expenditures were 5.8 percent of all research spending at these institutions during 1966-67 and ranged from 5 percent to 15 percent of all research project spending in the different classes of institutions.

In 1966-67, an average of 9.6 percent of all research projects at medical schools and 41.7 percent of research projects at dental schools received their major or sole support from GRSG funds. Also, GRSG funds were used in large measure to complement other sources of research support.

Pilot projects represented a small part of the total research effort, from 9 percent of all projects at medical schools to 28.1 percent at dental schools. However, the GRSG was the principal source of funding for these projects. It provided 20 percent of the expenditures for all pilot projects with at least $10,000 in support, and 45 percent of the cost of all smaller pilot projects. It funded the majority of pilot projects. And there exists significant testimony from scientists that this type of support came at a critical time in their professional development.

Institutions reported that over a 5-year period GRSG-funded research stimulated the award of an additional $57.5 million in nonfederal support and more than $90 million in additional Federal funds.

GRSG-funded scientists believe that the chief significance of the GRSG program lies in the support of young or new investigators. Yet relatively few faculty and professional staff members received support in terms of "early recognition." However, many health professional schools have chosen to encourage young people to participate in research through GRSG traineeship programs.

More GRSG funds were used for new
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